

REMARKS/ARGUMENTS

Claims 1, 3-6, 15-18, 27-30, and 34 are pending.

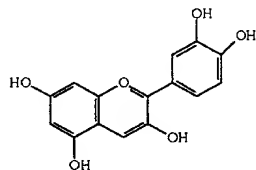
The amendments to the Claims were made to put the claims in form for allowance or better form for appeal. The amendments are considered to be technical in nature. The amendments are not considered to be substantive.

Claims 1 and 27 have been amended to recite that the mixture comprises cyanidin and anthocyanins hydrolyzable to the cyanidin. Support for this amendment can be found on pages 12-14 which describe making the mixtures and on page 15, lines 2-5, which says that the mixture contains anthocyanins **1-3** and page 15, lines 16-18, which says that the anthocyanins are hydrolyzable to cyanidin in the gut of a mammal. The results show that the mixture had COX-2 inhibitory activity (page 15, lines 2-5) whereas the purified anthocyanins **1-3** had little or no activity (page 15, lines 9-11) and cyanidins had good inhibitory activity (page 15, lines 6-8). It should be noted that the mixture had inhibitory activity down to 33 ppm of the mixture.

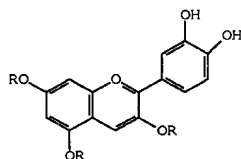
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1. Claims 1, 3-6, 15-18, 27-30, and 34 were rejected under 35 U.S.C. § 112, first paragraph, as containing new matter. The new matter was alleged to reside in the phrase "cyanidin and an anthocyanin" which was construed to mean cyanidin and one species of anthocyanin whereas the specification teaches mixtures containing cyanidin and anthocyanins **1-3**.

Claims 1 and 27 have been amended to call for a mixture of cyanidin and anthocyanins which are which are hydrolyzable to the cyanidin. Cyanidin has the following structure.



Anthocyanins is a generic term which describes a plurality of glycosylated compounds, some of which are hydrolyzable to cyanidins. Anthocyanins which are hydrolyzable to cyanidin must have the following structure



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wherein at least one R is one or more sugar residues and the remaining Rs are OH. Anthocyanins **1-3** are hydrolyzable to the cyanidin.

The specification on pages 12-14 describe making mixtures of anthocyanin, bioflavonoids, and phenolics from cherries. Bioflavonoids is a generic term which encompasses cyanidins and anthocyanins. On page 15, lines 2-5, the specification says that the mixture contains anthocyanins **1-3**. On page 15, lines 16-18, the specification says that the anthocyanins are hydrolyzable to cyanidin in the gut of a mammal. On page 16, lines 17-23, the applicants teach an *in vitro* method for preparing cyanidin from the mixture containing anthocyanins **1-3**.

In light of the above, it is believed that currently amended Claims 1 and 27 do not contain new matter. Reconsideration of the rejection is requested.

2. Claims 1, 3-6, 27-30, and 34 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Lietti et al. (GB 1,598,294) in view of Wurm et al. (1982).

The currently amended claims are not believed

to be *prima facie* obvious over Wurm in view of Lietti.

Wurm states that all flavonoids . . . are prostaglandin synthesis (PGS) inhibitors if they have a pyrrol-catechol structure in at least one of their two aromatic rings (Wurm Eng. trans.: para. 1). Flavonoids comprise two aromatic rings joined together by 3 carbon residues thus, cyanidins, anthocyanins, and anthocyanidins are all flavonoids. Cyanidin, anthocyanidins, and anthocyanins all have a pyrrol-catechol structure in their B rings. Wurm also teaches that most bioflavonoids are resorbed poorly and are quickly decomposed by the intestinal flora and any which might get resorbed are decomposed in the liver (Wurm Eng. trans.: page 14, last paragraph). One of ordinary skill in the art might conclude from Wurm that orally administering a composition comprising cyanidins and anthocyanins would be an ineffective way to provide the bioflavonoids.

Lietti teaches that various anthocyanidins such as cyanidin have anti-inflammatory activity. Lietti teaches that the anthocyanidins can be provided by hydrolyzing crude extracts of anthocyanins. Lietti does not appear to provide any information suggesting that anthocyanins themselves might have anti-

inflammatory activity. Lietti does not teach compositions for treating inflammation which contain anthocyanins. Thus, it appears that the only disclosure in Lietti relating to anthocyanins is in the context of hydrolyzing them to make anthocyanidins.

While cyanidins and anthocyanidins have anti-inflammatory activity (Wurm in view of Lietti), the applicants teach in Example 4 that purified anthocyanins **1-3** are less effective as prostaglandin synthesis inhibitors (Specification: page 15, lines 9-11). This would appear to suggest that anthocyanins are less effective for treating inflammation. This would also appear to suggest that the statement in Wurm that all flavonoids have anti-inflammatory activity is an over-generalization because as the applicants show in Example 4, anthocyanins **1-3** are a species of flavonoid with a pyrrol-catechol structure which are not prostaglandin synthase inhibitors. However, while the applicants teach that purified anthocyanins **1-3** have less anti-inflammatory activity, the applicants teach that mixtures containing anthocyanins **1-3** are useful for treating inflammation *in vivo* because the anthocyanins **1-3** are hydrolyzed to cyanidins in the gut of mammals

of mammals (Specification: page 15, lines 16-18).

In light of the above, the applicants' currently claimed method would not have been *prima facie* obvious over the prior art. One of ordinary skill in the art would not have been motivated to devise a treatment for inflammation using a mixture from cherries containing cyanidin and anthocyanins which are hydrolyzable to the cyanidin. This is believed to be particularly so here where the prior art does not teach treating inflammation with compositions containing anthocyanins and Wurm's teachings suggest that administering bioflavonoids orally would be an ineffective way to treat inflammation. Therefore, Claims 1, 3-6, 27-30, and 34 are not believed to be *prima facie* obvious over Wurm in view of Lietti. Reconsideration of the rejection is requested.

3. Claims 1, 3-6, 15-18, 27-30, and 34 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Lietti et al. (GB 1,598,294) in view of Wurm et al. (1982) and further in view of Heckert et al. (US 5,516,535).

The above argument against Wurm and Lietti applies to this rejection as well. The addition of

Heckert to the rejection is not believed to render currently amended Claims 1, 3-6, 15-18, 27-30, and 34 *prima facie* obvious.

With respect to currently amended Claims 1, 3-6, 27-30, and 34, Heckert's practice of adding pulp to its beverage to provide fiber to the beverage is believed to be of no relevance as to whether the claims are *prima facie* obvious over Wurm in view of Lietti. Because currently amended Claims 1, 3-6, 27-30, and 34 are not *prima facie* obvious over Wurm and Lietti, the claims are clearly not *prima facie* obvious over Wurm and Lietti further in view of Heckert.

Currently amended Claims 15-18 are not believed to be *prima facie* obvious over Wurm and Lietti further in view of Heckert.

Heckert discloses beverages for providing bioavailable β -carotene which in particular embodiments can be fiber-supplemented. Sources of fiber include pulp such as orange pulp. While the beverages can contain fruit juice, the fruit juice is not a significant component of the beverage. It is added to the beverage for its flavor and not its nutritional value. In contrast, the cyanidins and anthocyanins hydrolyzable to the cyanidins are significant components

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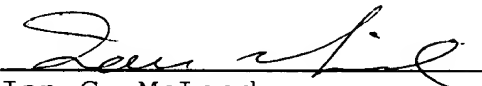
of the composition. Heckert does not teach or suggest making a dried mixture of cyanidins and anthocyanins hydrolyzable to the cyanidins combined with the dried pulp of cherries. Therefore, there is nothing in Heckert which would have suggested to a person of ordinary skill in the art to make a composition which contained cyanidins and anthocyanins hydrolyzable to the cyanidins isolated from cherries and combined with the dried pulp of the cherries from which they had been obtained.

In light of the above, Claims 1, 3-6, 15-18, 27-30, and 34 are believed to be patentable over Wurm and Lietti further in view of Heckert. Reconsideration of the rejection is requested.

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4. In light of the above, it is now believed that Claims 1, 3-6, 15-18, 27-30, and 34 are in condition for allowance. Notice of Allowance is requested.

Respectfully,



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